Classification: Research Analyst IV

Title Code: V00437

Pay Range: 28

POSITION SUMMARY: This is a supervisory position where the employee primarily conducts research and provides statistical and analytical support to crime and traffic safety authorities from Patrol components, state agencies, legislators, advocacy groups, and the general public. An employee in this position supervises employees who assist with the collection and analysis of data. Through analyses of various databases maintained by the Patrol and various state agencies, this employee coordinates the development, analysis, and interpretation of reports, spreadsheets, graphical displays, and dashboards that provide information and insight into Missouri's crime and crash experience and trends, and various requests for data insight. An employee in this position may serve as director of the Missouri Statistical Analysis Center (SAC). General supervision is received from the immediate supervisor, and independent judgment is expected in the performance of routine duties.

DESCRIPTION OF DUTIES PERFORMED (Any one position may not include all of the duties listed nor do the listed examples include all tasks which may be found in positions of this class.):

Supervises assigned Research and Development Division employee(s); provides guidance to employees conducting research and responding to requests.

Coordinates the use of descriptive statistics, predictive analytics, machine learning, and other methods to learn about and derive insights from the patterns and relations within datasets to produce annual and ad hoc reports.

Develops and conducts new research studies to determine characteristics and patterns of criminal arrest/recidivism, arrest/crash relationships, etc.

Conducts Patrol staffing modeling studies and presents the information to policy makers; as well as coordinates the peparation of the monthly Governor's Dashboard report and the completion of internal and external requests for statistical analysesof crash and crime data.

Maintains the SAC website; develops new web pages to convey pertinent crash and crime statistics; and assists with system development and maintenance of Web based statistical reports and public dashboards.

Manages federal grants provided to the SAC, by developing initial applications, project status reports, budgets, and required deliverables.

Provides key information and criminal justice liaison services to facilitate electronic crash data interfaces between law enforcement agencies and the statewide data repository.

Performs statistical analyses of data for internal and external stakeholders regarding various information requested (e.g., crash data, crime data, staff modeling studies, etc.).

Develops intuitive graphics utilizing a wide range of data visualization tools (e.g., ArcGIS, Tableau, etc.).

Uses inferential statistics to learn about the causal relations between variables in a dataset.

Obtains, merges, reshapes, cleans, and evaluates the quality of datasets.

Utilizes Geographical Information System software to analyze and visualize desired data elements.

Accesses data utilizing various methods including, but not limited to, Structured Query Language (SQL) databases.

May serve as director of the SAC; complies with all associated Bureau of Justice Statistics (BJS)/Justice Research and Statistics Association (JRSA) requirements.

Performs other related work as assigned.

REQUIRED KNOWLEDGE, SKILLS, AND ABILITIES: Extensive knowledge of and the ability to utilize statistical programming languages (e.g., R, Python, Stata, Statistical Package for the Social Sciences (SPSS), etc.).

Extensive knowledge of and the ability to utilize complex datasets, including importing, merging, and reshaping datasets.

Extensive knowledge of and the ability to identify duplicates, discrepancies, missing entries, and other elements of large data.

Extensive knowledge of and the ability to utilize SQL databases.

Extensive knowledge of and the ability to utilize research designs, methodologies, statistical concepts, and sampling strategies.

Extensive knowledge of and the ability to utilize computer word processing, spreadsheet, presentation, and graphics software.

Extensive knowledge of the agency's functions and inter-relationships.

Knowledge of the basic principles and practices of supervisory and management techniques.

Possess written communication skills for reports, documentation, and correspondence.

Possess verbal communication skills for telephone conversations, emails, and meetings.

Possess advanced analytical and interpretative skills to relate crash or crime data collection forms, specifications, and code files.

Possess analytical and interpretative skills to relate data collection forms, specifications, and code files.

Possess excellent communication skills, to include proper and effective use of grammar, punctuation, and sentence structure.

Ability to work as a team member and positively interact with a variety of people, including administrative staff, employees, and the general public.

Ability to research topics via Internet and academic database searches with a high degree of resourcefulness.

Ability to communicate well with individuals having many levels of technical knowledge.

Ability to work on many tasks simultaneously, while maintaining good organizational skills. Ability to work independently.

Ability to enter and extrapolate statistical data with appropriate databases and prepare reports.

Ability to learn the Patrol's applicable computer systems and policies.

Ability to research topics with a high degree of resourcefulness.

Ability to communicate well with individuals having many levels of technical knowledge.

Ability to work on many tasks simultaneously, while maintaining good organizational skills.

Ability to work independently.

Ability to handle restricted and confidential information in a professional manner and maintain the information as such.

Ability to operate basic office equipment.

Ability to communicate in English clearly and concisely, both orally and in writing. Ability to establish and maintain harmonious working relations with others.

Ability to work with material that may be of a sexual nature relating to criminal activity (e.g., written material, photographs, and/or verbal language, etc.).

Ability to work hours as assigned.

MINIMUM EXPERIENCE AND EDUCATION REQUIRED (The following represents the minimum qualifications used to accept applicants, provided that equivalent substitution will be permitted in case of deficiencies in either experience or education.):

Possess a bachelor's degree from an accredited four-year college or university in Mathematics, Statistics, Criminal Justice, Information Technology, or related field. Coursework must include at least three credit hours in statistics.

AND

Two years as a Research Analyst III or comparable experience.

Preference may be given to those possessing experience and/or certification (s) in research methodology, statistical analysis utilizing ArcGIS, or programming languages such as R, Python, Stata, SPSS, SQL

FLSA STATUS: Non-Exempt

WORK SCHEDULE: An employee in this position works an eight-hour shift as directed; however, working hours are subject to change at the discretion of the commanding authority.